

2 inches) on a vertical limb of a Jamaican cedar (*Cedrela odorata*) for approximately 70 seconds. The crow probed into the center of the bromeliad, also into the dead leaves on the outside of the plant, and removed an invertebrate prey. The same individual flew to a dead limb (5 inches wide) on the same tree and began probing into the rotten end. I watched it remove a grasshopperlike insect.

4 May.—Two individuals were observed on a guango tree (*Samanea saman*). One probed into a large-sized bromeliad (base 4 inches) for approximately 160 seconds. Near-by a second individual probing under the loose bark on a dead branch 3 inches thick caught an invertebrate prey.

28 June.—Watched crow probing and pecking woodpecker-fashion into the rotten end of a guango tree 4 inches wide for approximately 140 seconds; it obtained a small arthropod approximately $\frac{1}{2}$ inch long. The same individual kept probing underneath the bark for 85 seconds.

1 July.—One individual watched probing into a medium-sized bromeliad on a guango tree for 150 seconds caught a grasshopperlike insect.

14 July.—Watched crow feeding on the whitish fruit ($\frac{1}{2}$ inch) of the burnnose tree (*Daphnopsis tinifolia*) for approximately 130 seconds. In this period it swallowed four berries.

While these observations show the foraging pattern of the Jamaican Crow to be considerably more flexible and diverse than Gosse (op. cit.) reported, much work still remains to be done before the complete picture of its niche utilization pattern emerges.

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Canada Goose-Osprey interactions.—During the course of a study of tree-nesting Canada Geese (*Branta canadensis*) along the Bitterroot River in Ravalli and Missoula Counties, Montana, I witnessed several instances of conflict between nesting geese and Ospreys (*Pandion haliaetus*). Few such conflicts between nesting waterfowl and raptors have been recorded. John Fannin (Auk, 11: 322, 1894) describes an Osprey nest in British Columbia that a pair of Canada Geese and a pair of Ospreys both defended. In the nest an Osprey was incubating two Osprey eggs and three goose eggs. Four of the eggs were collected, one goose egg being left in the nest. On a later visit the Osprey was incubating the goose egg and the geese had abandoned the site.

Geese are present in the Bitterroot River region throughout the year, and begin nesting activities about mid-March. They choose a wide variety of aerial nesting sites, including nests built by Great Blue Herons (*Ardea herodias*), Red-tailed Hawks (*Buteo jamaicensis*), and Ospreys. Several pairs of Ospreys nest here every year; I saw the first ones in 1969 on 3 April and in 1970 on 9 April.

In 1969 a pair of Ospreys apparently evicted a nesting pair of geese that had occupied the nest before they arrived. The gander, however, refused to abandon his post and defended his territory despite frequent harassment. On one occasion this gander with two other geese flew directly toward the nest. One goose dove at the Osprey sitting in the cup of the nest; the goose's breast missed the Osprey's head by only a few inches. The Ospreys immediately gave chase, but the attacking goose

made two more passes at the nest when an Osprey tried to land. Meanwhile a third Osprey came in from the north and joined the fracas. The geese and Ospreys chased one another for a full minute, at times resorting to complicated aerial maneuvers. The conflict ended with the Ospreys chasing the geese away and reclaiming the nest. I later found several shells from broken goose eggs on the ground at the base of the tree. This type of conflict may be common in this area in years when a late spring causes an overlap in the nesting seasons of the geese and the Ospreys.

In 1970 a pair of Ospreys established a nest on an artificial nesting platform 50 feet high over a pool in Ravalli National Wildlife Refuge. Some 20 to 40 geese were always present on this pool, and conflicts between them and the Ospreys were seen frequently during April, May, and June. The Ospreys regularly took wing and pursued any geese that came within about 40 yards of the nest. As soon as the geese had retreated to the edge of this territory, the Ospreys returned to their nest and/or waiting post. Flying geese were ignored unless they came close over the nest; ducks were never chased.

In years when weather conditions allow geese to begin nesting in early March, some Osprey nests get double usage. In 1970 a pair of geese nested in an Osprey nest atop a 90-foot snag. Seven goslings left this nest on 16 April. The next morning an Osprey was seen in the nest eating the shells and/or egg membranes left by the geese. Two weeks later this nest was occupied by a pair of Ospreys, which ultimately fledged two young.—DENNIS L. FLATH, *Montana Fish and Game Department, Libby, Montana 59923*. Accepted 20 May 71.

Cooperative breeding and a case of successive polyandry in the Bay-winged Cowbird.—In 1969 I began a field study on the breeding behavior and ecology of the nonparasitic Bay-winged Cowbird (*Molothrus badius*) near Lobos, Buenos Aires Province, Argentina. Though the study is still unfinished, I wish to report some behavioral aspects not reported by Friedmann (The cowbirds, Springfield, Illinois, Charles C. Thomas, 1929, pp. 4–34). These observations were made in the breeding season 1970–71, when 15 adults were captured with mist nets and color-banded.

The study area will be described in detail elsewhere; though small (about 0.7 ha) eight female Bay-wings bred here in 1970–71, and at least six did so in 1969–70. This high density is obviously correlated with a high concentration of “leñateros” (*Anumbius annumbi*, Furnariidae) and its nests, but the Bay-wings are probably semicolonial, at least in certain places. In the study area most Bay-wings build in temporarily abandoned bulky *Anumbius* nests; occasionally they use old nests of Great Kiskadees (*Pitangus sulphuratus*), and they have bred in nesting boxes. No nests were found in open situations. Parasitic Screaming Cowbirds (*Molothrus rufoaxillaris*) are also abundant in the study area.

Bay-wings breed from November to early March. The female selects the nesting site, builds the nest, sleeps in it during egg-laying, incubates the eggs (recorded incubation period 12 days), broods and feeds the nestlings (nestling period 14–15 days), and feeds the fledglings. The male at first follows the female passively, helps build the nest, guards the nest during the incubation period, and feeds both the nestlings and the fledglings. The male also does most of the mobbing of potential predators and chasing of Screaming Cowbirds (cf. Friedmann, *ibid.*). These behavioral differences were determined at nests where I had watched the birds copulate and thus knew the sexes of color-banded individuals.

Most breeding pairs of Bay-wings in the study area are assisted by one, sometimes two helpers (cf. Skutch, Condor, 63: 198, 1961). These not only bring food